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## 3. Collation

**Program Name:** Collation.java

**Input File:** collation.dat

In preparation for teaching her new kindergarten class, Agnes has made some devious plans. Rather than teaching the children the alphabet in the standard alphabetical order, she's decided to teach the kylographical order. For each test case you will print the words sorted lexicographically using kylographical order.

### Input

The first line of input contains  $T$ , the number of test cases.

Each test case contains three lines. The first line in each test case is the kylographical order of the alphabet. The next line contains a single integer,  $N$ , the number of words to be sorted. The last line contains  $N$  space-delimited lowercase words.

### Output

For each test case, print the words sorted lexicographically using kylographical order.

### Constraints

$1 \leq T \leq 10$

$1 \leq N \leq 20$

### Example Input File

```
3
ojhdfnexkizuyvgltraqpwbsmc
5
dance safe sidewalk orange safety
zyxwvutsrqponmlkjihgfedcba
7
cage hammer tree cow yearning treatment morning
fhgdsakjlpioytuerqwcxzbvm
3
apple justice favorite
```

### Example Output to Screen

```
orange dance sidewalk safe safety
yearning tree treatment morning hammer cow cage
favorite apple justice
```

### Explanation of Output

The letter *o* appears first in the first given kylographical order, so *orange* comes before all the other words. Since the letter *d* appears before the letter *s*, *dance* is the next word. *sidewalk*, *safe*, and *safety*, all begin with an *s*, so they are compared with the next letter. Since *i* appears kylographically before *a*, *sidewalk* is next. Lastly, since *safe* is a sub-word of *safety*, and therefore shorter in length but equal up to its length, *safe* comes before *safety*. In the second kylographical order (the standard alphabet backwards) the output places the words in reverse standard alphabetical order.